PETROLOGICAL EXAMINATION OF AMPHORAE FROM THE 1970 EXCAVATIONS AT COLCHESTER SHEEPEN

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Sixty-one samples of amphorae from the Colchester Sheepen excavations were submitted for thin section study under the petrological microscope. The object of the analysis was twofold: (1) to characterize in detail the fabrics involved, and (2) if possible to indicate likely source areas.

Dressel 1B

Two rims (nos. 1 and 2) and three handles (nos. 3, 4 and 5).

Thin sectioning shows frequent inclusions of quartz, felspar, volcanic rock, augite and accessory garnet, while samples 2 and 5 also contain cryptocrystalline limestone. There seems little doubt that all five samples belong to Peacock's (1971) Fabric 1, with an origin in southern Latium or Campania, or perhaps Etruria (1978).

The writer has supplemented Peacock's thin section analyses of the two variants of the Dressel 1 form, 1A and 1B, in the hope of working out the proportions of vessels which were sent from the various Italian centres to Britain. With one fabric exception, the results have proved disappointing, as it has been difficult to achieve clear-cut geological groups. Unfortunately, the three wine producing centres of the Dressel 1 form, Campania, Latium and Etruria, are all covered by fairly similar volcanic tracts. Any slight nuances of fabric variation, as there are

amongst the Colchester Sheepen samples, may well be the result of amphora manufacture on different farming estates within a given region, rather than reflecting large diverse 'factory-type' concerns (Peacock,1971,164). The one exception is the 'black sand' fabric associated with the Dressel 1B and 2-4 forms in British contexts (Peacock's Fabric 2). An origin in the Latium region has been suggested for this fabric, on the basis of the presence of yellow garnet when viewed in thin section (Courtois and Velde, 1978). However, yellow-brown garnet is also a feature of the sands further south, and a Campanian origin, in particular the area around Pompeii and Herculaneum, has been more convincingly argued by Peacock (1977a, 153).

Dressel 2-4

Thin sectioning of a large group of Dressel 2-4 vessels allowed the material to be subdivided into a number of fabric groups on the basis of the types of non-plastic inclusions present in the clay body. In some cases this has made it possible to confidently allocate amphorae to particular production centres. However, many of the samples contained little else except such common minerals as quartz and mica, together with the odd piece of felspar and limestone. Due to the ubiquity of these inclusions in pottery, it is not possible to be specific about geological origins on this information alone. Texturally, there would appear to be considerable variety amongst those Dressel 2-4 types with common inclusions, suggesting that several different clay sources were used, and implying that these vessels were made in several different locations and unlikely to be the products from a single production centre. For this reason a number of fabric groupings have been made based on a textural analysis of the samples, that is an examination of the

size, shape and frequency of the inclusions present in the clay. However, a note of caution should be introduced in relying too heavily on a classification based on textural analysis alone (see for example Bishop,1979).

Dressel 2-4 of Italian origin

Three rims (nos. 32, 37 and 40), two handles (nos. 35 and 39), three spikes (nos. 6, 37 and 42) and five bodysherds (nos. 41, 44, 47, 48 and 139).

In thin section the majority of samples are very similar to the Dressel 1B vessels above, and we can again look for an origin in Campania, southern Latium and Etruria (Peacock's Fabric 1). Two of the Dressel 2-4 samples, 41 and 42, are in the 'black sand' fabric of Peacock's Fabric 2, which points to an origin in the area around Pompeii and Herculaneum (see above).

Dressel 2-4 of Catalan origin

Two bodysherds (nos. 22 and 23).

Thin sectioning reveals numerous inclusions of quartz and felspar, both plagioclase and potash, a little mica and small fragments of granite. The sherds are very distinctive in the hand-specimen, and are in a hard, rough, dark red to reddish-brown fabric (Munsell 10R 4/4 to), with large visible grains of quartz and felspar scattered throughout. This Dressel 2-4 amphora fabric is characteristic of the Catalan area of Spain, in particular the granitic region around Barcelona. These amphorae probably held wine, as the Layetanian area was praised by Martial as having a quality of wine second only to that of Campania (xiii,118).

Dressel 2-4 of possible Baetican origin

Rim (no. 30) and spike (no. 31).

In thin section these samples are similar in composition and texture to the Camulodunum 185A handle below and to Dressel 20 amphora (Peacock, 1979). The main range of inclusions consists of large grains of quartz, quartzite and felspar, together with a little sandstone, chert and mica schist. In view of the fabric similarities with amphorae of known Baetican origin, a source in Baetica, or at least southern Spain, appears highly likely for these vessels.

Dressel 2-4 of indeterminate origin

Fabric 1

Spike (no. 11) and part handle (no. 7).

Thin sectioning reveals a scatter of subangular quartz grains, average size 0.10-.40mm, rare flecks of mica and cryptocrystalline limestone.

Fabric 2

Bodysherd/part handle (no. 10).

Thin sectioning shows frequent subangular quartz grains, average size 0.05-.20mm, with a scatter of larger grains, and a little plagioclase felspar and [illegible]

Fabric 3

Rim (no. 43).

Thin sectioning reveals numerous subangular quartz grains, average size 0.05-.10mm, with a scatter of slightly larger grains,

a little sandstone and flecks of mica.

Fabric 4

Rim (no. 8).

In thin section this sherd contains mica-schist, plentiful mica, some felspar and a little quartz.

Fabric 5

Spike (no. 12).

Thin sectioning reveals ill-sorted subangular quartz grains ranging up to 1.0mm in size, a little felspar and flecks of mica.

Fabric 6

Handle (no. 6) and spike (no. 45).

Thin sectioning shows plentiful flecks of mica, a little plagioclase felspar, chert and a scatter of quartz.

Fabric 7

Handle (no. 38).

Thin sectioning shows a groundmass of silt-sized quartz grains and flecks of mica, with a scatter of larger grains of quartz and quartzite.

Fabric 8

Spike (no. 140).

Thin sectioning reveals an optically isotropic matrix containing frequent grains of quartz in the size-range 0.10-.50mm, a little chert and flecks of mica.

Fabric 9

Rim and handle (no. 33).

Thin sectioning shows a groundmass of silt-sized quartz grains, a few slightly larger grains, and plentiful mica.

Comments

Of the 28 sherds of Dressel 2-4 sampled, 13 can be attributed almost certainly to an Italian origin, 2 are from Catalonia, 2 possibly from Baetica and 11 are from unknown sources. If these Dressel 2-4 sherds are representative of the total Colchester Sheepen vessels of this form, then we can see that during the period A.D. 43-60/61, about half the Dressel 2-4 wine amphorae reaching the site were being imported from Italy. This figure may even be higher, as it it possible that some Italian vessels are included in the indeterminate category, possibly coming from the non-volcanic areas of southern Italy (see Zevi,1966). It is interesting to compare these results with selective thin sectioning of the 10 Dressel 2-4 amphorae from the Lexden Tumulus, dated to the last years of the first century B.C. (Peacock,1971,183), which suggests that at this date the form was probably exclusively imported from Italy. This is not to say that during the last years of the first century B.C. and early years of the first century A.D. Italy was the sole provider of wine to Britain. The presence in Britain at this time of Rhodian amphorae from the eastern Aegean and Dressel 1 - Pascual 1 from Catalonia (Williams,1981), shows that non-Italian wine was reaching the country. The Colchester Sheepen results do suggest, however, that by the middle years of the first century A.D. inroads were being made into the Italian Dressel 2-4 trade, particularly by Spain, and that as well as

receiving the traditional fish sauce amphorae from Baetica, Britain was also importing Dressel 2-4 wine amphora from that province.

Rhodian style amphorae

A number of Rhodian style amphorae have been thin sectioned and allocated to Peacock's (1977b) fabric divisions. It is worth pointing out, that unlike the Dressel 2-4 types, based on the Koan form but made at a variety of places around the western Mediterranean area, the Rhodian style of amphora does not appear to have been copied in the West, and so the distribution of this form represents importation from the eastern Aegean.

Fabric 1

Four rims (nos. 59, 64, 67 and 141), one handle (no. 66) and two bodysherds (nos. 134 and 137).

In thin section all the samples are seen to contain frequent red and brown grains of serpentine and a little quartz and limestone. The mineralogy suggests Peacock's Fabric 1, with an origin in Rhodes or the surrounding area.

Fabric 3

Two handles (nos. 60 and 61) and one spike (no. 62).

Thin sectioning reveals little else but grains of quartz, mica and some potash felspar. All three samples probably belong to Peacock's Fabric 3, with an Aegean origin, although they appear slightly sandier than is usual for this group.

Fabric 7

One rim (no. 126) and one handle (no. 65).

In thin section both samples contain frequent small fragments of phyllite, a scatter of fine quartz and a little mica. This composition is not described in Peacock's six Rhodian style fabric groups, and so these two sherds have been designated Fabric 7. A metamorphic origin is indicated by the presence of phyllite in the clay, but much of the Aegean area is composed of metamorphic deposits and it is not possible at this stage to be more precise about likely source areas.

Comments

The majority of Rhodian style sherds examined (7 out of 12) are in Peacock's Fabric 1, which he suggests is particularly common on early military sites in Britain (1977b,269-270). The Colchester Sheepen site was technically civilian, but with strong military connections, which might explain the large percentage of Fabric 1. The presence of 5 samples of Fabrics 3 and 7 may possibly reflect the civilian element st Sheepen (ibid.).

Probable Dressel 28

Two handles (nos. 133 and 138) and five bases (nos. 128, 129, 130, 131 and 132).

When dealing with non-rim sherds of the amphora forms Dressel 28 and Pelichet 47, it can often be difficult to decide to which form a sherd belongs. The petrology is not helpful in this matter, as both types tended to be made in the same areas. In this case it was decided to allocate the majority of the material to Dressel 28 because of the large size of the flat-bottomed bases, which give the appearance of being wider than those normally associated with the Pelichet 47 form. Samples 128-133 all contain plentiful flecks

of mica, a little quartz and small fragments of metamorphic rock, while 131 also has some limestone. It is likely that they all come from southern France. Sample 138 shows a different composition to this, containing frequent subangular grains of quartz, average size 0.10-.30mm, some plagioclase felspar, amphibole and flecks of mica.

Camulodunum 185A

Handle (no. 29) and bodysherd (no. 135).

Both sherds are from the fish-sauce amphora type Camulodunum 185A from Baetica/southern Spain. In thin section they contain large grains of quartz, quartzite and felspar, sandstone, chert and mica-schist.

Beltran 1 / Camulodunum 185B

Three rims and handles (nos. 24, 26 and 92), one rim (no. 25) and one part handle and spike (no. 16).

The four rims in this group seem to fall mid-way between the southern Spanish fish-sauce amphorae types Beltran 1 and Camulodunum 185B. The fabric is very similar for all the sherds in this group, soft, slightly gritty and reddish-buff in colour, and it is best to treat them all under one heading. In thin section they all contain a groundmass of silt-sized quartz grains, with a scatter of slightly larger grains, flecks of mica, including quite large grains, sandstone, chert and occasional mica-schist.

Hallstatt 70 variant

Rim (no. 119).

In thin section the mineralogy is not dissimilar to the

Beltran 1 / Camulodunum 185B group above. Southern Spanish origin.

Unknown sherds

Two bodysherds (nos. 9 and 63).

It is difficult to tell from hand-specimen study and petrology to which forms these two bodysherds belong.

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Dear David

Amphoras from the 1970 Excavations at Colchester Sheepen

Here is a list of the amphoras submitted for analysis. Those which are underlined were collected by yourself on the 12th November 1980. The numbers on the amphoras are those given them by myself for reference.

Dressel 1: amphoras nos 1-5

Dressel 1c: amphora no.138 previously entered as unidentified

Dressel 2/4: amphoras nos 6-12, 22-23 (Catalan), 24-26 and 33 (Baetican ?), 27, 29-32, 34-40, 41, 42-46, 47-48, 139, 140

Rhodian: amphoras nos 59-61, 62, 63-64, 65, 66

Haltern 70: amphora no.119

Dressel 28: amphoras nos 126-33

Peltran 1: amphora no.92

Dressel 2/4 or Rhodian: amphoras nos 67 and 136

Unidentified: amphoras nos 134-35, 137 and 141

Many thanks for undertaking this and the best of British luck.

Paul

P. A. Bealey